

REMARKS

Objection to the specification

The specification stands objected to because on page 7, line 23, the polysilicon layer is referenced as "202" even though the drawing references the layer as "102". Accordingly, paragraph [0026] of the specification, which comprises line 23 of page 7, has been amended to reference the polysilicon layer as "102".

Further, mistypings have been corrected in paragraph [0025] of the specification.

No subject matter has been added.

Accordingly, Applicants respectfully request the Examiner to withdraw the objection to the specification.

Rejection under 35 U.S.C. 102

Claims 5, 7 and 8 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,818,459 to Wack. Applicants respectfully disagree.

Claim 5

In the Action, the Examiner asserts that Wack discloses an apparatus comprising "a first detecting device (283) for detecting the light intensity of the first light beam". Applicants respectfully disagree and note that Wack provides that detecting device 283 is configured "to monitor fluctuations in the output power of light source 282" (column 116, lines 39-41). Applicants note that although higher light power represents higher light intensity, it does not imply that a light intensity can be measured by measuring a light power only, and submit that Wack does not disclose or suggest using the first detecting device 283 for detecting light intensity. Accordingly, Applicants respectfully submit that Wack does not disclose or suggest an apparatus comprising "a first detecting device for detecting the light intensity of the first beam", as recited in claim 5, and submit that claim 5 is patentable over Wack.

Claims 7 and 8

Claims 7 and 8 depend on claim 5. Applicants submit that at least in view of their dependency on claim 5, claims 7 and 8 are patentable over Wack.

Rejection under 35 U.S.C. 103

Claims 1-4, 6 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wack, in view of U.S. Pat. No. 5,229,832 to Gaynor and further in view of U.S. Pat. No. 5,754,289 to Ozaki. Claims 10-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wack, in view Gaynor, Ozaki and further in view of U.S. Pat. No. 6,730,550 to Yamazaki. Applicants respectfully disagree.

Claim 1

Applicants note that the Examiner acknowledges that Wack fails to disclose a monitoring based on the intensity ratio of the detected signals from the two detectors. Further, the Examiner asserts that in Gaynor " the processor compensates the detected intensity from the specimen based on the fluctuation in the source intensity, which is done by taking a ratio of the two intensities". Applicants respectfully disagree, and note that Gaynor discloses compensating the fluctuations of the source intensity, or compensating for laser level fluctuations, by using a signal produced from a detector 29 (Figs. 3-5), processed by offset and gain control blocks 30, 31, which is subtracted by subtraction circuit 33 from the detected intensity from the specimen from detector 18. Thus, Applicants submit that since Gaynor teaches compensating for source intensity fluctuations by using a difference between the source intensity and a reflected intensity, Gaynor actually teaches away from compensating for source intensity fluctuations by using a ratio between a source intensity and a reflected intensity.

Applicants note that the Examiner has failed to show that Ozaki discloses a monitoring based on the intensity ratio of the detected signals from the two detectors, and respectfully submit that at least in view of the above, no combination of Wack,

Gaynor and Ozaki would have led one of ordinary skill in the art to a process as recited in claim 1, and in particular comprising "*monitoring crystal quality of the polysilicon layer by the light intensity ratio*". Accordingly, Applicants submit that claim 1 is patentable over Wack, Gaynor and Ozaki.

Claims 2, 3 and 4

Claims 2, 3 and 4 depend directly or indirectly on claim 1. Applicants submit that at least in view of their dependency on claim 1, claims 2, 3 and 4 are patentable over Wack, Gaynor and Ozaki.

Claim 6

The above arguments can be used to show that the Examiner has failed to show that a combination of Wack, Gaynor and Ozaki would have led one of ordinary skill in the art to an apparatus as recited in claim 6, and in particular comprising "*a controlling unit coupled between the first and second detecting devices to monitor crystal quality of the polysilicon layer by a light intensity ratio of the first light beam to the second light beam reflected from the polysilicon layer*". Accordingly, Applicants submit that claim 6 is patentable over Wack, Gaynor and Ozaki.

Claim 9

Claim 9 depends on claim 5. It has been seen above that Wack cannot be deemed to disclose or suggest an apparatus as recited in claim 5. Further, Applicants note that Gaynor disclose an apparatus comprising a sensor 18 that receives an interference pattern of a first beam and a scattered portion of a fourth beam (which is a counter propagating replica of the first beam, see column 5, line 60 – column 6, line 2), and a sensor 19 that receives an interference pattern produced by the combination of the fourth and the reference beams (column 6, lines 54-56), and a sensor 29 that receives a small portion of a non-reflected laser beam (column 9, lines 57-58). In particular, Applicants note that the interference pattern of two beams does not depend only on the intensity of the two beams, and that receiving the interference pattern of two beams cannot be deemed to suggest or disclose detecting the light intensity of one of the two

beams. Accordingly, Applicants submit that Gaynor cannot be deemed to disclose an apparatus as recited in claim 5, and in particular comprising *"a second detecting device for detecting the light intensity of the second light beam reflected from the polysilicon layer"*.

Further, Applicants submit that the Examiner has failed to show that Osaki discloses or suggests any of the features recited in claim 5, and submit that the Examiner has failed to show that a combination of Wack, Gaynor and Osaki would have led one skilled in the art to an apparatus as recited in claim 5. Accordingly, Applicants submit that claim 5 is patentable over Wack, Gaynor and Osaki, and submit that at least in view of its dependency on claim 5, claim 9 is patentable over Wack, Gaynor and Osaki.

Claim 10

The arguments above can be used to show that neither Wack, Gaynor or Osaki teaches a method as recited in claim 10, and in particular comprising *"detecting the light intensity of the first light beam and the light intensity of the second light beam reflected from each polysilicon region to achieve a plurality of light intensity ratios"*. Further, Applicants submit that the Examiner has failed to show that Yamasaki teaches a method comprising the above feature. Accordingly, Applicants submit that the Examiner has failed to show that a combination of Wack, Gaynor, Osaki and Yamasaki would have led one skilled in the art to a method as recited in claim 10, and in particular comprising *"detecting the light intensity of the first light beam and the light intensity of the second light beam reflected from each polysilicon region to achieve a plurality of light intensity ratios"*, and submit that claim 10 is patentable over Wack, in view of Gaynor, Osaki and Yamasaki.

Claims 11-16

Claims 11-16 depend directly or indirectly on claim 10. Applicants submit that at least in view of their dependency on claim 10, claims 11-16 are patentable over Wack, in view of Gaynor, Osaki and Yamasaki.

* * *

In view of the above, Applicants submit that the application is now in condition for allowance and respectfully urge the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees that may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

June 9, 2005

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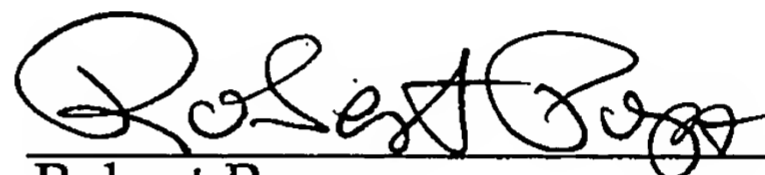


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Respectfully submitted,



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